AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A transmission power detecting apparatus of a CDMA system comprising:

a base station transmitting unit for transmitting a radio frequency (RF) CDMA signal to a terminal; and

a transmission power detecting unit for detecting an average power of the transmitted RF CDMA signal in a frequency domain, the transmission power detecting unit including:

a mixer to provide an intermediate frequency signal;

a first filter to filter the intermediate frequency signal;

a converter to provide a digital signal based on the filtered intermediate frequency signal;

a buffer to store the digital signal;

a second filter to filter the signal output from the buffer; and

a unit to convert the signal output from the second filter and to determine the average power.

2. (Original) The apparatus of claim 1, further comprising: a digital processor for compensating the detected average power with a temperature compensation value stored in a memory and checking a power of the RF CDMA signal.

3. (Original) The apparatus of claim 2, wherein the temperature compensation value is stored in a look-up table format.

4. (Currently Amended) The apparatus of claim 1, wherein ~~the transmission power detecting unit comprises~~:

the mixer comprises a first mixer for down-converting the RF CDMA signal into ~~an~~ the intermediate frequency (IF) signal;

the first filter comprises a first BPF for filtering the down-converted IF CDMA signal;

the converter comprises a first ADC for sampling the filtered IF CDMA signal and digital-converting it;

~~an~~ the buffer comprises a FIFO (First-In, First-Out) for storing the digital-converted IF CDMA signal;

the second filter comprises a finite impulse response (FIR) filter for filtering the IF digital CDMA signal which has been outputted from the FIFO; and

the unit comprises a Fourier transform (FFT) unit for Fourier-converting the filtered IF digital CDMA signal and computing an average power of the RF CDMA signal.

5. (Currently Amended) A transmission power detecting apparatus of a CDMA system comprising:

a base station transmitting unit for transmitting an RF CDMA signal to a terminal;

a transmission power detecting unit for detecting an average power of the RF CDMA signal in the frequency domain; and

a digital processor for compensating the detected average power with a temperature compensation value stored in a memory and checking a power of the RF CDMA signal, the transmission power detecting unit including:

a mixer to provide an intermediate frequency signal;

a converter to provide a digital signal based on the intermediate frequency signal; and

a unit to determine the average power based on the converted digital signal.

6. (Currently Amended) The apparatus of claim 5, wherein the transmission power detecting unit ~~comprises~~ further includes:

the mixer comprising a first mixer for down-converting the RF CDMA signal into ~~an~~ the intermediate frequency (IF) signal;

a first BPF for filtering the down-converted IF CDMA signal;

the converter comprising a first ADC for sampling the filtered IF CDMA signal and digital-converting it;

~~an~~ a FIFO (First-In, First-Out) for storing the digital-converted IF CDMA signal;

a finite impulse response (FIR) filter for filtering the IF digital CDMA signal which has been outputted from the FIFO; and

the unit comprising a Fourier transform (FFT) unit for Fourier-converting the filtered IF digital CDMA signal and computing an average power of the RF CDMA signal.

7. (Original) The apparatus of claim 6, wherein the FFT obtains an average power (Pavg) according to the following equation.

$$Pavg = \int_{-BW/2}^{+BW/2} V(f)*(f)dt$$

wherein V(f) is a frequency characteristic function of the filtered IF digital CDMA signal.

8. (Original) A transmission power adjusting apparatus comprising:

a base station transmitting unit for converting a baseband digital CDMA into an RF CDMA signal and transmitting it;

a transmission power detecting unit for detecting a power of the RF CDMA signal in a first frequency domain;

an average power detecting unit for detecting a power of the baseband digital CDMA signal in a second frequency domain; and

a digital processor for comparing the detected transmission power with the average power and controlling the power of the RF CDMA signal.

9. (Original) The apparatus of claim 8, wherein the first frequency domain is a low frequency domain.

10. (Original) The apparatus of claim 8, wherein the second frequency domain is an intermediate frequency domain.

11. (Currently Amended) The apparatus of claim 8, further comprising ~~an adder~~ a comparator for comparing the magnitude of the transmission power with the average power.

12. (Original) The apparatus of claim 8, wherein the transmission power detecting unit comprises:

a first mixer for down-converting the RF CDMA signal into an intermediate frequency (IF) signal;

a first BPF for filtering the down-converted IF CDMA signal;

a received signal strength indicator (RSSI) detector for detecting a strength of the

filtered IF CDMA signal in the form of a voltage; and

a first ADC for digital-converting the voltage detected by the RSSI detector and outputting a transmission power of the RF CDMA signal.

13. (Currently Amended) The apparatus of claim 8, wherein the transmission power detecting unit comprises:

a first mixer for down-converting the RF CDMA signal into an intermediate frequency (IF) signal;

a first BPF for filtering the down-converted IF CDMA signal;

a first ADC for sampling the filtered IF CDMA signal and digital-converting it;

~~an~~ a FIFO memory for storing the digital-converted IF CDMA signal;

a finite impulse response (FIR) filter for filtering the IF digital CDMA signal which has been outputted from the FIFO memory; and

a first Fourier transform (FFT) unit for Fourier-converting the filtered IF digital CDMA signal and computing an average power of the RF CDMA signal.

14. (Currently Amended) The apparatus of claim 8, wherein the average power detecting unit comprises:

first and second square units for respectively squaring digital CDMA signals of a channel 'I' and a channel 'Q';

an adder for adding the output signals of first and second square units;

~~an~~ a FIR filter for filtering the digital CDMA signal outputted from the adder; and

a ~~second~~ FFT unit for Fourier-converting the digital CDMA signal outputted from the FIR filter and computing an average power of the baseband digital CDMA signal in the second frequency domain.

15. (Currently Amended) A transmission power adjusting apparatus of a base station transmitting instrument comprising:

a base station transmitting unit for converting a baseband digital CDMA signal into an RF CDMA signal and transmitting it;

a transmission power detecting unit for detecting a power of the RF CDMA signal in a first frequency domain;

an average power detecting unit for detecting a power of the baseband digital CDMA signal in a second frequency domain; and

a digital processor for comparing the detected transmission power with an average power and controlling a power of the RF CDMA signal,

wherein the average power detecting unit comprising:

first and second square units for respectively squaring digital CDMA signals of a channel 'I' and a channel 'Q';

an adder for adding the output signals of first and second square units;

~~an~~ a FIR filter for filtering the digital CDMA signal outputted from the adder; and

a ~~second~~ FFT unit for Fourier-converting the digital CDMA signal outputted from the FIR filter and computing an average power of the baseband digital CDMA signal in the second frequency domain.

16. (Original) The apparatus of claim 15, wherein the first frequency domain is a low frequency domain, and the second frequency domain is an intermediate frequency domain.

17. (Original) The apparatus of claim 15, further comprising: an adder for comparing the magnitude of the transmission power with the average power.

18. (Currently Amended) The apparatus of claim 15, wherein the ~~transmitting~~ transmission power detecting unit comprises:

a first mixer for down-converting the RF CDMA signal into an intermediate frequency (IF) signal;

a first BPF for filtering the down-converted IF CDMA signal;

a received signal strength indicator (RSSI) detector for detecting a strength of the filtered IF CDMA signal in the form of a voltage; and

a first ADC for digital-converting the voltage detected by the RSSI detector and outputting a transmission power of the RF CDMA signal.

19. (Currently Amended) The apparatus of claim 15, wherein the transmission power detecting unit comprises:

a first mixer for down-converting the RF CDMA signal into an intermediate frequency (IF) signal;

a first BFF for filtering the down-converted IF CDMA signal;

a first ADC for sampling the filtered IF CDMA signal and digital-converting it;

~~an~~ a FIFO memory for storing the digital-converted IF CDMA signal;

a finite impulse response (FIR) filter for filtering the IF digital CDMA signal which has been outputted from the FIFO memory; and

a ~~first~~ Fourier transform (FFT) unit for Fourier-converting the filtered IF digital CDMA signal and computing an average power of the RF CDMA signal.